

CLAIMS**1. A gas seal structure comprising:**

a main seal means that is made of rubber and is disposed between two seal surfaces;
a sub-seal means that is made of resin and is disposed between the two seal surfaces,
the sub-seal means being located closer to a higher-pressure side region than the main
seal means and being provided with a concave groove; and
a pressure variation reducing means that is disposed between the main seal means
and the sub-seal means and has a variation reducing space connected to a gap formed
between the two seal surfaces.

**2. The gas seal structure according to claim 1, wherein the sub-seal means is disposed
such that the concave groove opens toward the higher-pressure side region.**

**3. The gas seal structure according to claim 1, wherein the sub-seal means is disposed
such that the concave groove opens toward a lower-pressure side region.**